

[DOCUMENT NAME] SCOPE OF CLAIM FOR PATENT

1 A mobile device having wireless antennas in a wireless communication network having a plurality of base stations, characterized in including:

5 two or more antennas installed separately at an extent that the base station of which radio wave intensity becomes maximum differs antenna by antenna in a case where the mobile device has stood still in the vicinity of a boundary of wireless areas; and

10 a communication means for simultaneously utilizing said two or more antennas, thereby to simultaneously make communication with a plurality of the base stations.

2 The mobile device according to claim 1, characterized  
15 in including the means for:

detecting a transmission/reception state of each antenna; and

performing a hand-over process based upon said transmission/reception state of each of said antennas.

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3 The mobile device according to claim 1, characterized in that said mobile device is a vehicle.

4 The mobile device according to claim 1, characterized  
25 in that said mobile device is a train.

5 The mobile device according to claim 1, characterized  
in that said mobile device is a ship.

5 6 The mobile device according to claim 1, characterized  
in raising a communication reliability by, in a case where  
a set of base stations with which communication is  
possible via the antenna differ antenna by antenna, making  
communication with respective separate base stations.

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7 A mobile device having wireless antennas in a wireless  
communication network having a plurality of base stations,  
characterized in including:

two or more antennas installed separately at an extent  
15 that the base station of which a communication quality  
becomes most excellent differs antenna by antenna in a  
case where the mobile device has stood still in the  
vicinity of a boundary of wireless areas; and  
a communication means for simultaneously utilizing  
20 said two or more antennas, thereby to simultaneously make  
communication with a plurality of the base stations.

8 The mobile device according to claim 7, characterized  
in including the means for:

25 detecting a transmission/reception state of each

antenna; and

performing a hand-over process based upon said transmission/reception state of each of said antennas.

5   **9** The mobile device according to claim 7, characterized in that said mobile device is a vehicle.

10   **10** The mobile device according to claim 7, characterized in that said mobile device is a train.

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11   The mobile device according to claim 7, characterized in that said mobile device is a ship.

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12   The mobile device according to claim 7, characterized in raising a communication reliability by, in a case where a set of base stations with which communication is possible via the antenna differ antenna by antenna, making communication with respective separate base stations.

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**13** A mobile device having wireless antennas in a wireless communication network having a plurality of base stations, characterized in including:

two or more antennas installed separated at an extent that the base station of which a communication quality becomes most excellent differs antenna by antenna in a

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case where the mobile device has stood still in the vicinity of a boundary of wireless areas;

two or more transmission/reception means mounted responding to each of said antennas; and

5       a communication means for simultaneously utilizing said two or more antennas and said two or more transmission/reception means, thereby to simultaneously make communication with a plurality of the base stations.

10     **14** The mobile device according to claim 13, characterized in including the means for:

detecting a transmission/reception state of each antenna; and

15     performing a hand-over process based upon said transmission/reception state of each of said antennas.

**15** The mobile device according to claim 13, characterized in that said mobile device is a vehicle.

20     **16** The mobile device according to claim 13, characterized in that said mobile device is a train.

**17** The mobile device according to claim 13, characterized in that said mobile device is a ship.

18 The mobile device according to claim 13, characterized  
in raising a communication reliability by, in a case where  
a set of base stations with which communication is  
possible via the antenna differ antenna by antenna, making  
5 communication with respective separate base stations.

19 A method of arranging wireless interfaces,  
characterized in including a step of, in order to  
simultaneously make communication with a plurality of base  
10 stations, arranging two or more antennas separately at an  
extent that the base station of which radio wave intensity  
becomes maximum differs antenna by antenna in a case where  
a mobile device has stood still in the vicinity of a  
boundary of wireless areas.

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20 A method of arranging wireless interfaces,  
characterized in including the steps of: arranging two or  
more antennas separately at an extent that the base  
station of which a communication quality becomes most  
20 excellent antenna by antenna in a case where a mobile  
device has stood still in the vicinity of a boundary of  
wireless areas; mounting two or more  
transmission/reception means correspondingly to each  
antenna; and arranging wireless interfaces so that said  
25 two or more antennas and said two or more

transmission/reception means are simultaneously utilized, thereby to simultaneously make communication with a plurality of the base stations.

5   **21** A hand-over method of mobile telecommunications, characterized in including the steps of: detecting a transmission/reception state of two or more antennas mounted separately on a mobile body at an extent that a base station of which radio wave intensity becomes maximum  
10   differs antenna by antenna in a case where the mobile body has stood still in the vicinity of a boundary of wireless areas; and performing a hand-over process to the base station of the antenna where the radio wave intensity becomes strong with movement.

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20   **22** A hand-over method of mobile telecommunications, characterized in including the steps of: detecting a transmission/reception state of two or more antennas mounted separately on a mobile body at an extent that a base station of which a communication quality becomes most excellent differs antenna by antenna in a case where the mobile body has stood still in the vicinity of a boundary of wireless areas; and performing a hand-over process to the base station of the antenna where the radio wave  
25   intensity becomes strong with movement.